

IN THE CLAIMS

Kindly cancel Groups II-XII, claims 15-51 without prejudice.

1. (Original) A device (1) for examination and use of an electrical field in a magnetic gradient field, containing magnetic particles in an examination area of an object under examination, comprising

a. at least one first arrangement (2) for determining the spatial distribution of magnetic particles in at least one examination area of the object under examination, comprising a means (14) for generating a magnetic field with such a spatial magnetic field strength profile that a first sub-zone with low magnetic field strength and a second sub-zone with higher magnetic field strength are produced in at least one examination area, a means for detecting signals which depend on the magnetization in the object under examination, especially in the examination area, influenced by a local change in the particles, together with a means for evaluating the signals to obtain information about the, especially time-variable, spatial distribution of the magnetic particles in the examination area; and

b. at least one second arrangement (8), comprising at least one electrical transmit and/or receive unit (6), comprising at least one voltage generator (22), at least one terminal contact (18) connected to the voltage generator and applicable and/or fastenable to an object under examination, and a ground terminal (20) applicable and/or fastenable to an object under examination.

2. (Original) A device (1) as claimed in claim 1, characterized in that the second arrangement (8) comprises at least one pair of contact electrodes (4), especially a plurality of pairs of contact electrodes, for recording potential differences.

3. (Previously Presented) A device (1) as claimed in claim 1, characterized by at least one voltage measuring unit (24) and/or current measuring unit (26).

4. (Previously Presented) A device (1) as claimed in claim 1, characterized in that the voltage generator (22), the voltage measuring unit (24) and/or the current measuring unit (26) may be brought into or are in active connection with a microprocessor or computer.

5. (Previously Presented) A device (1) as claimed in claim 1, characterized in that the voltage measuring unit (24) and/or the current measuring unit (26) is/are equipped with at least one analog filter, measuring amplifier, A/D converter and/or digital filter.

6. (Previously Presented) A device (1) as claimed in claim 1, characterized in that a measuring voltage in the range of from 10 to 200 V may be generated with the voltage generator (22).

7. (Previously Presented) A device (1) as claimed in claim 1, characterized by at least one frequency converter.

8. (Previously Presented) A device (1) as claimed in claim 1, characterized in that the means (14) for generating the

magnetic field comprise a gradient coil arrangement for generating a magnetic gradient field which reverses direction in the first sub-zone of the examination area and exhibits a zero crossing.

9. (Previously Presented) A device as claimed in claim 1, characterized by a means for generating a time-variable magnetic field superimposed on the magnetic gradient field for the purpose of displacing the two sub-zones in the examination area.

10. (Previously Presented) A device as claimed in claim 1, characterized by a means, in particular at least one coil arrangement, for changing the spatial position of the two sub-zones in the examination area, such that the magnetization of the particles varies locally.

11. (Previously Presented) A device as claimed in claim 1, characterized by a means, in particular a coil arrangement, for changing the spatial position of the two sub-zones in the examination area by means of superimposition of an oscillating or rotating magnetic field, especially in the first sub-zone with low field strength.

12. (Previously Presented) A device as claimed in claim 1, characterized by a coil arrangement for receiving signals induced by the variation over time of the magnetization in the examination area.

13. (Previously Presented) A device as claimed in claim 1, characterized by at least one means for generating a first and at least one second magnetic field superimposed on the magnetic

gradient field, wherein the first magnetic field may be varied slowly over time with a high amplitude and the second magnetic field may be varied rapidly over time with a low amplitude.

14. (Original) A device as claimed in claim 13, characterized in that the two magnetic fields in the examination area may also extend substantially perpendicularly to one another.

15 - 51 (Cancelled)